

Synthesis Scheme of Wire-Aminouridine-Succinate

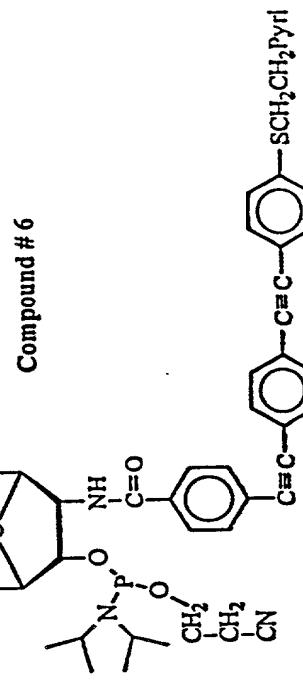
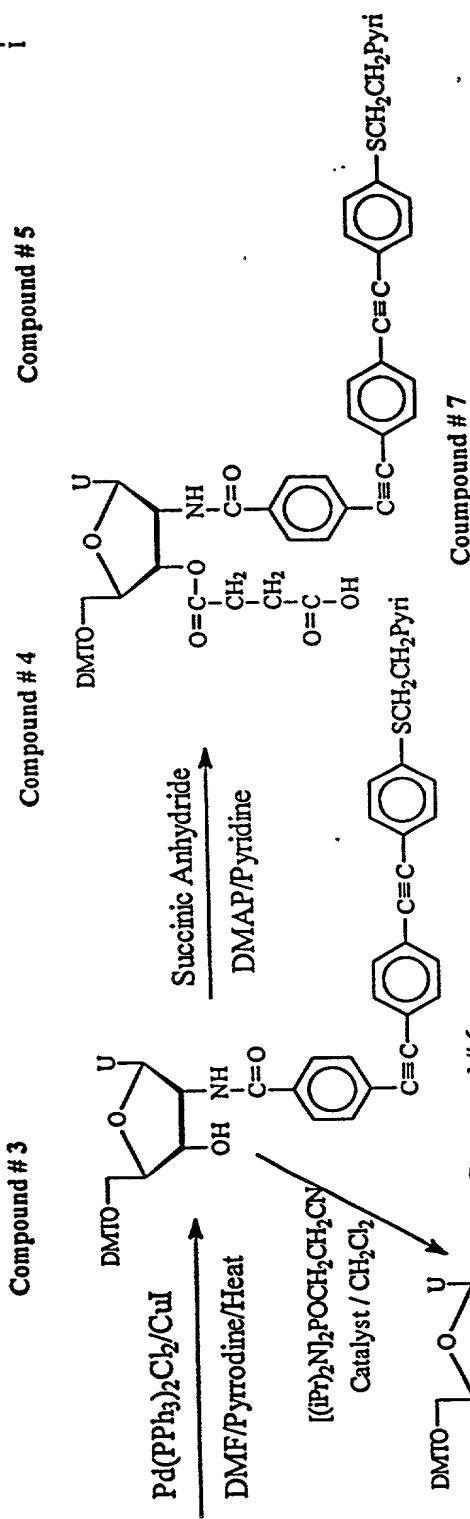
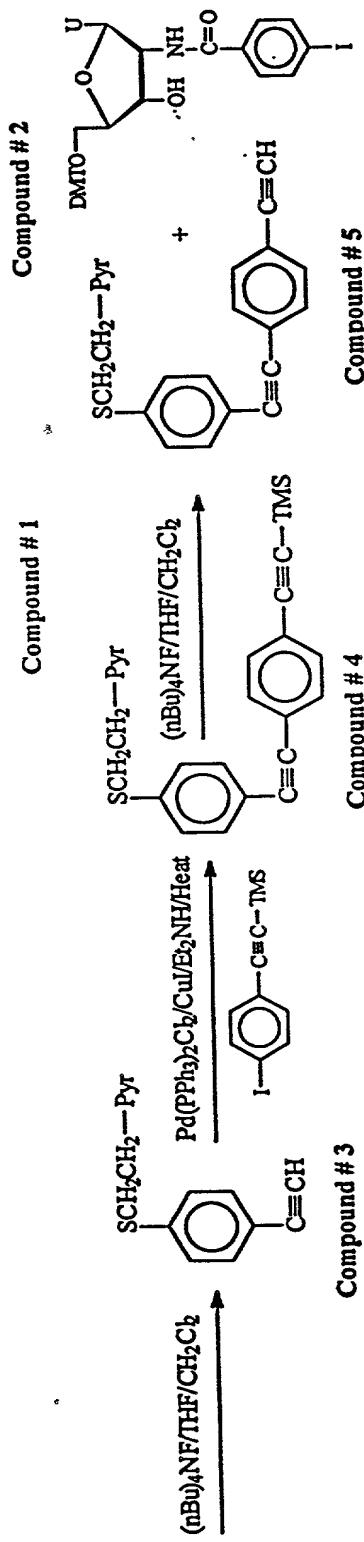
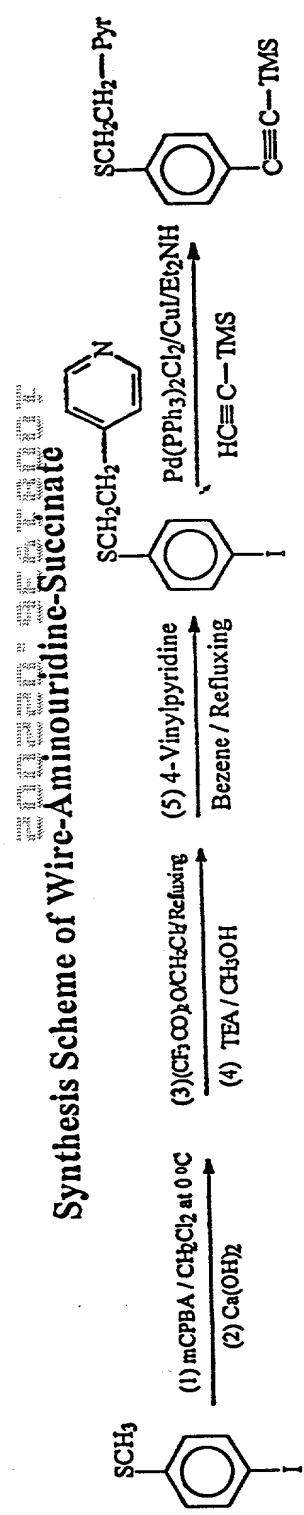


FIGURE 1

Synthesis Scheme of 2'-Arylamino-2'-Deoxy-Uridine

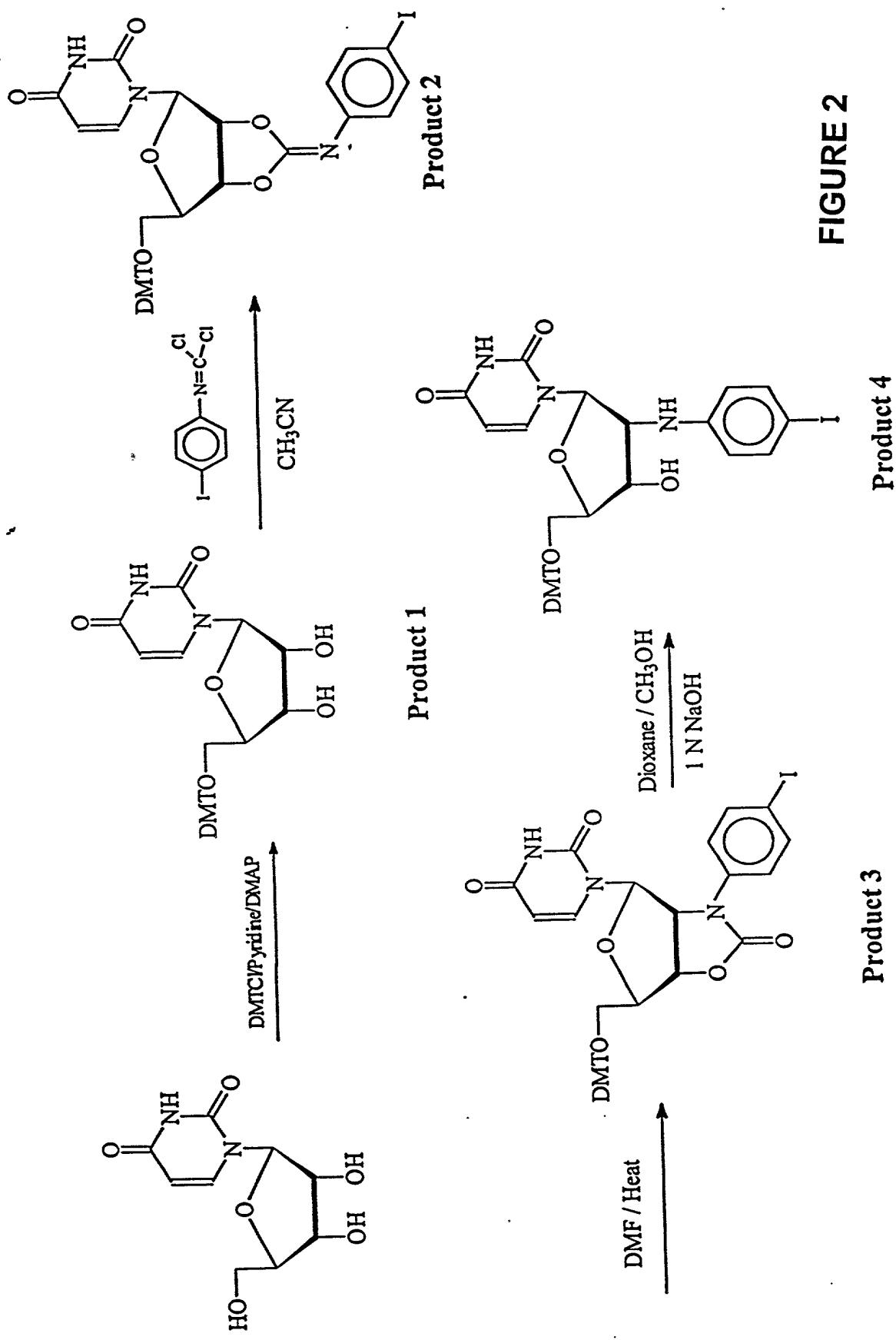


FIGURE 2

Product 4

Product 3

Product 2

Product 1

FIGURE 3

Synthesis Scheme of Base-Modified Uridine-Wire Succinate

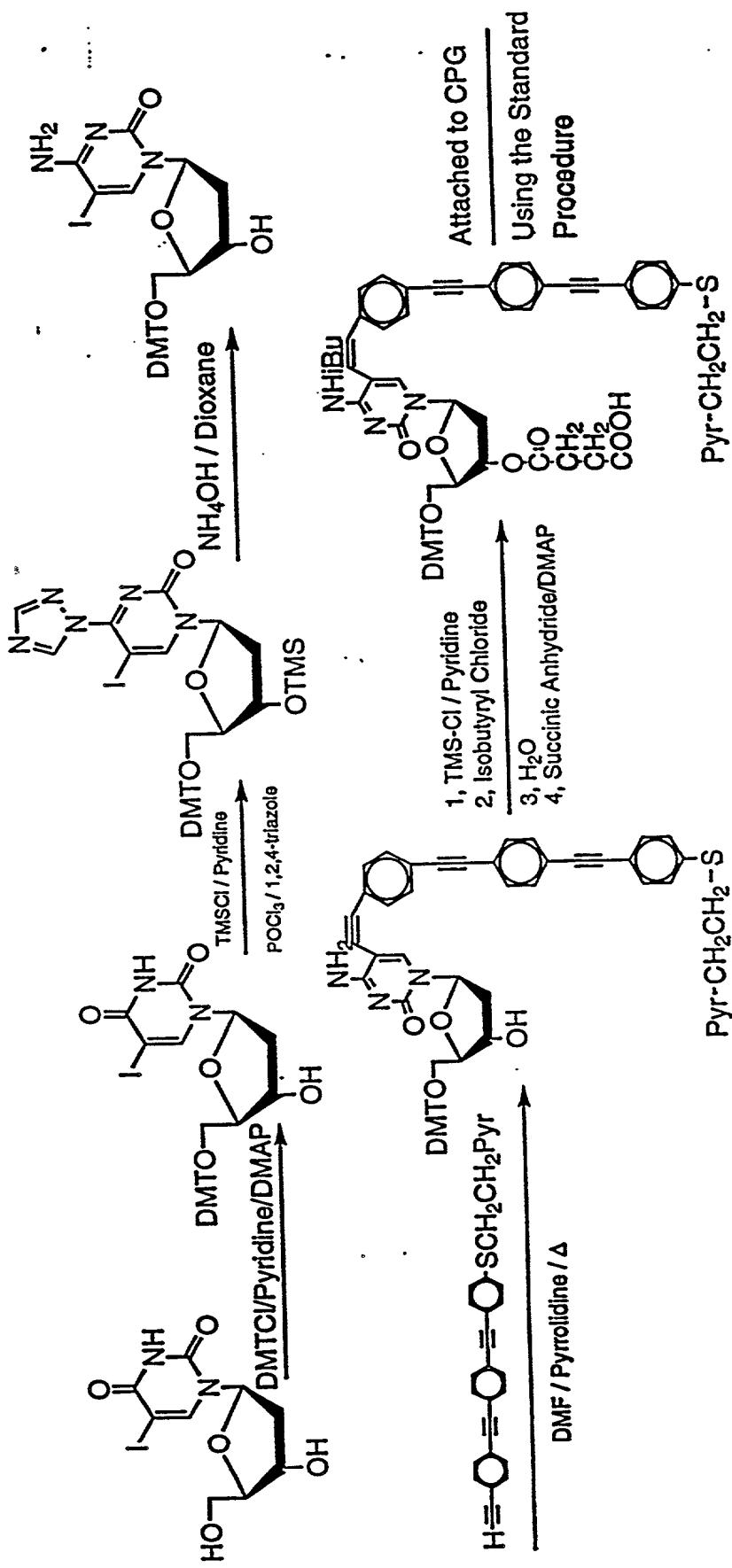


FIGURE 4

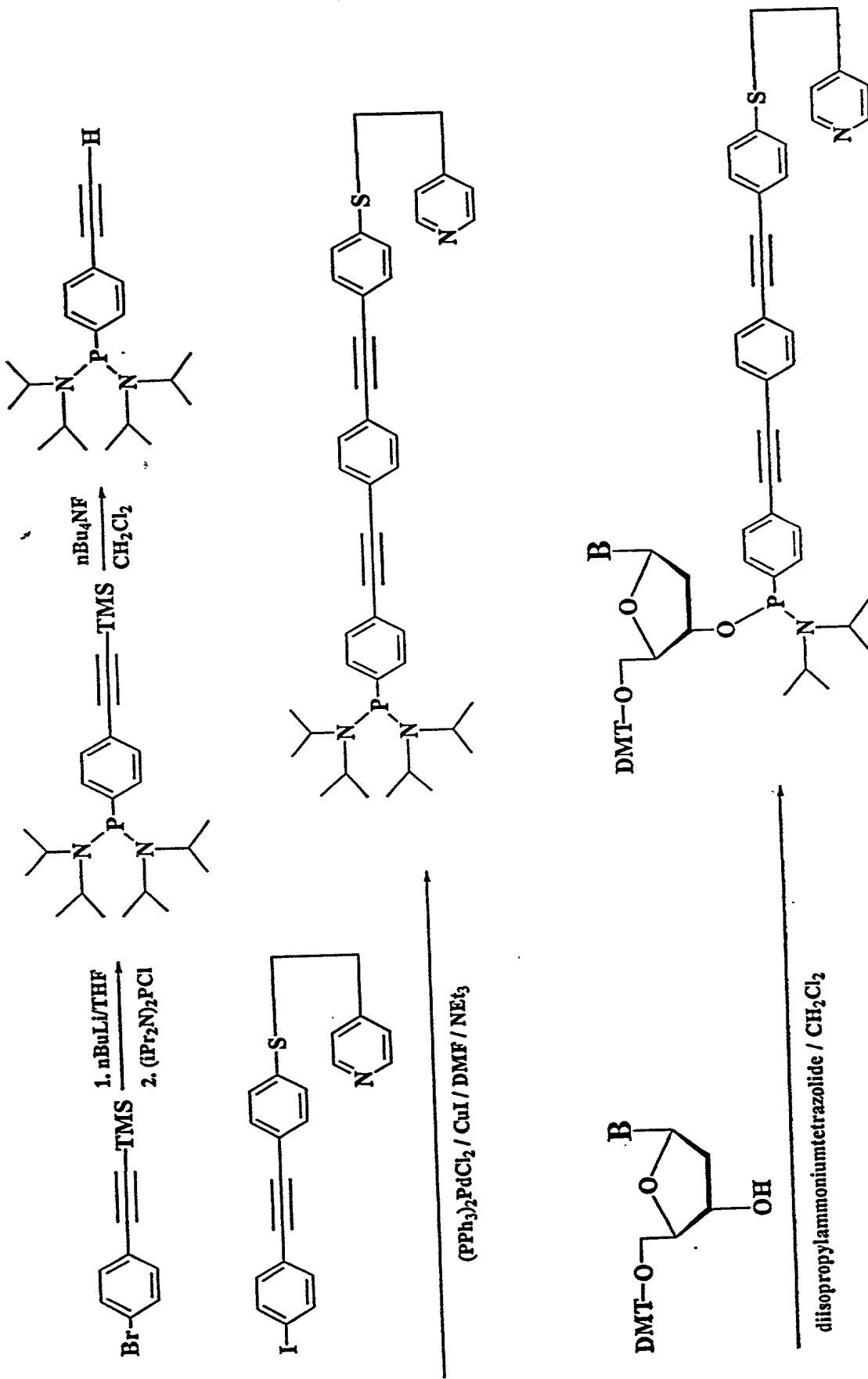
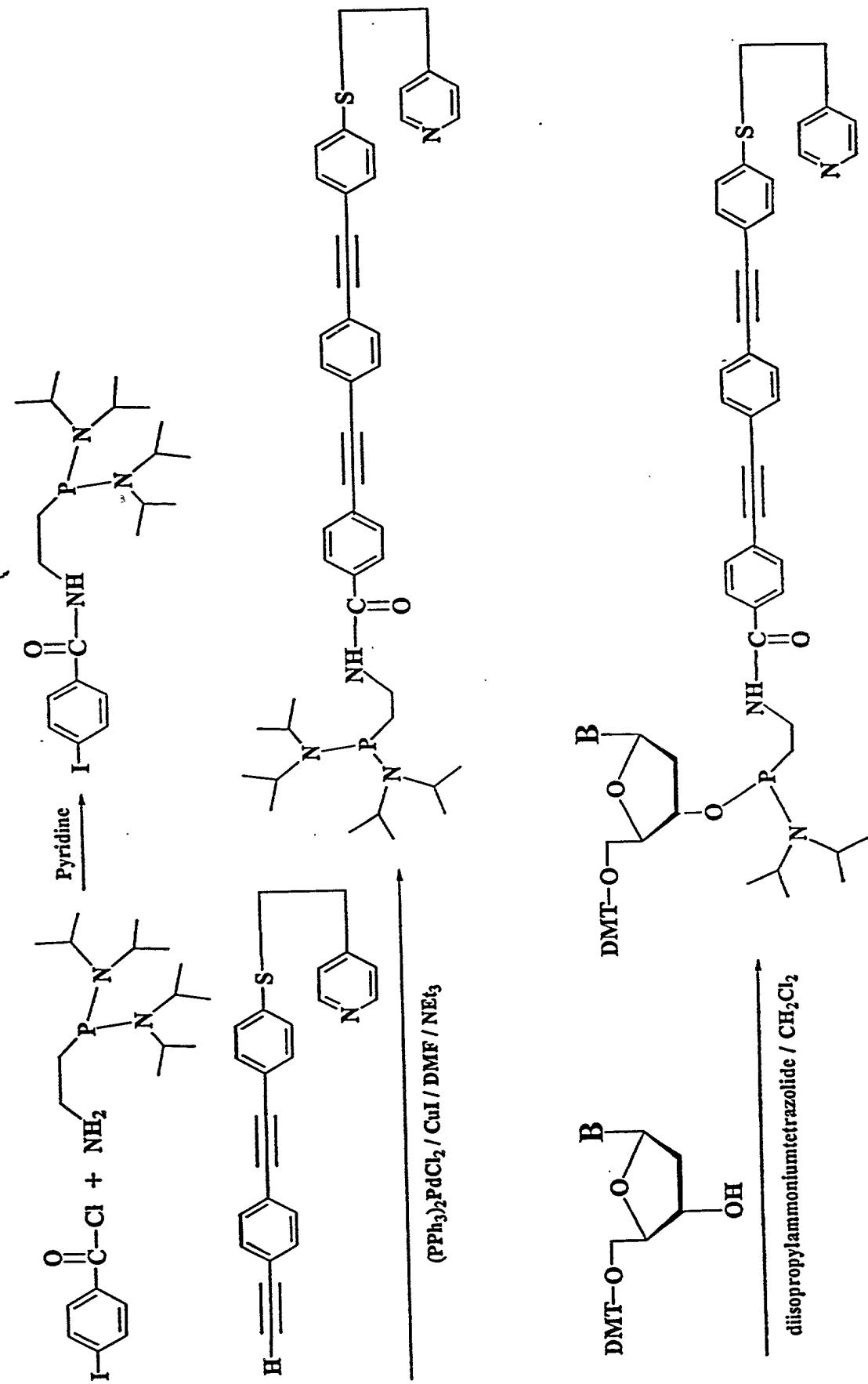


FIGURE 5



Synthesis Scheme of Substituted Three-Unit Wire

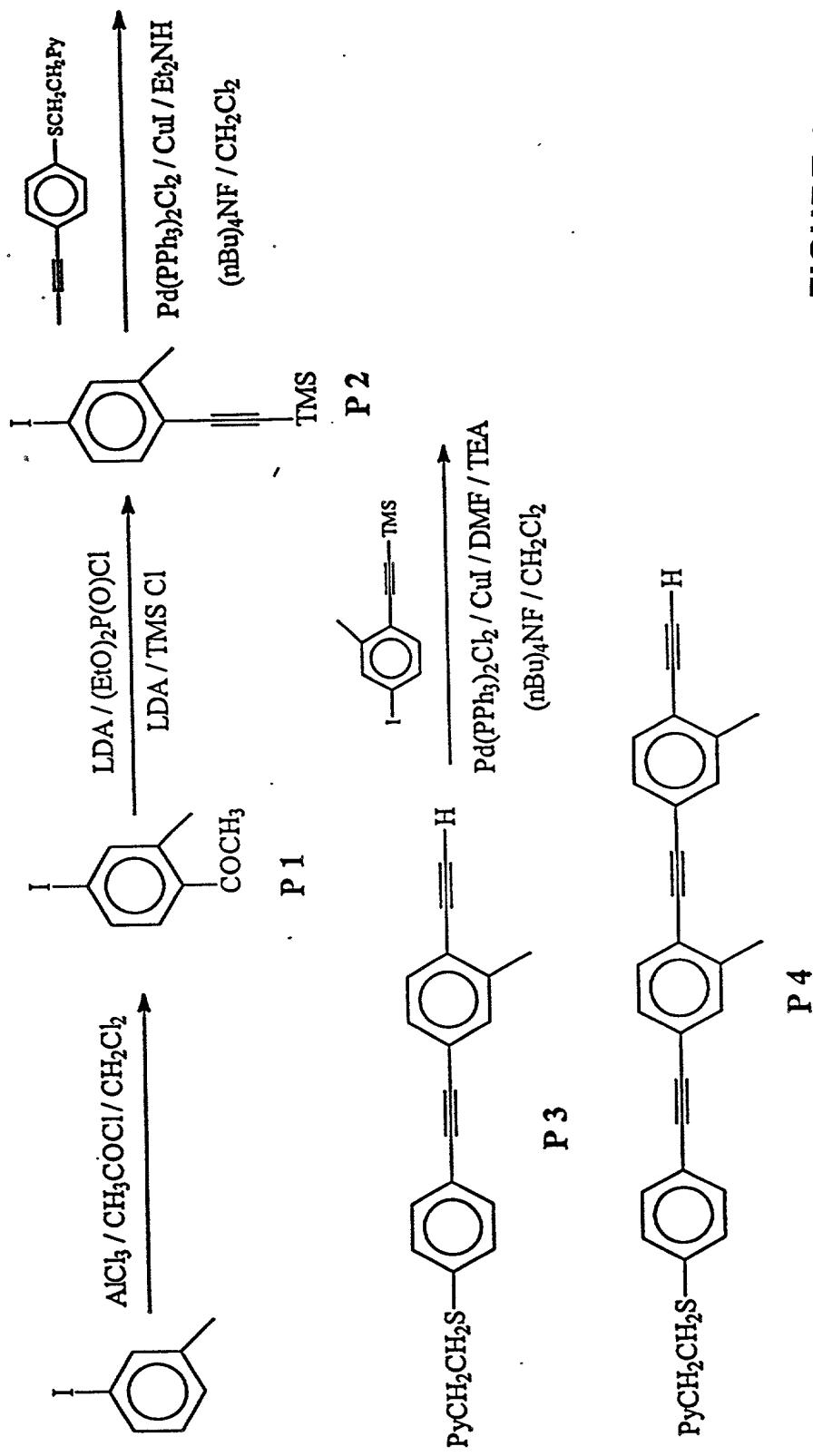


FIGURE 6

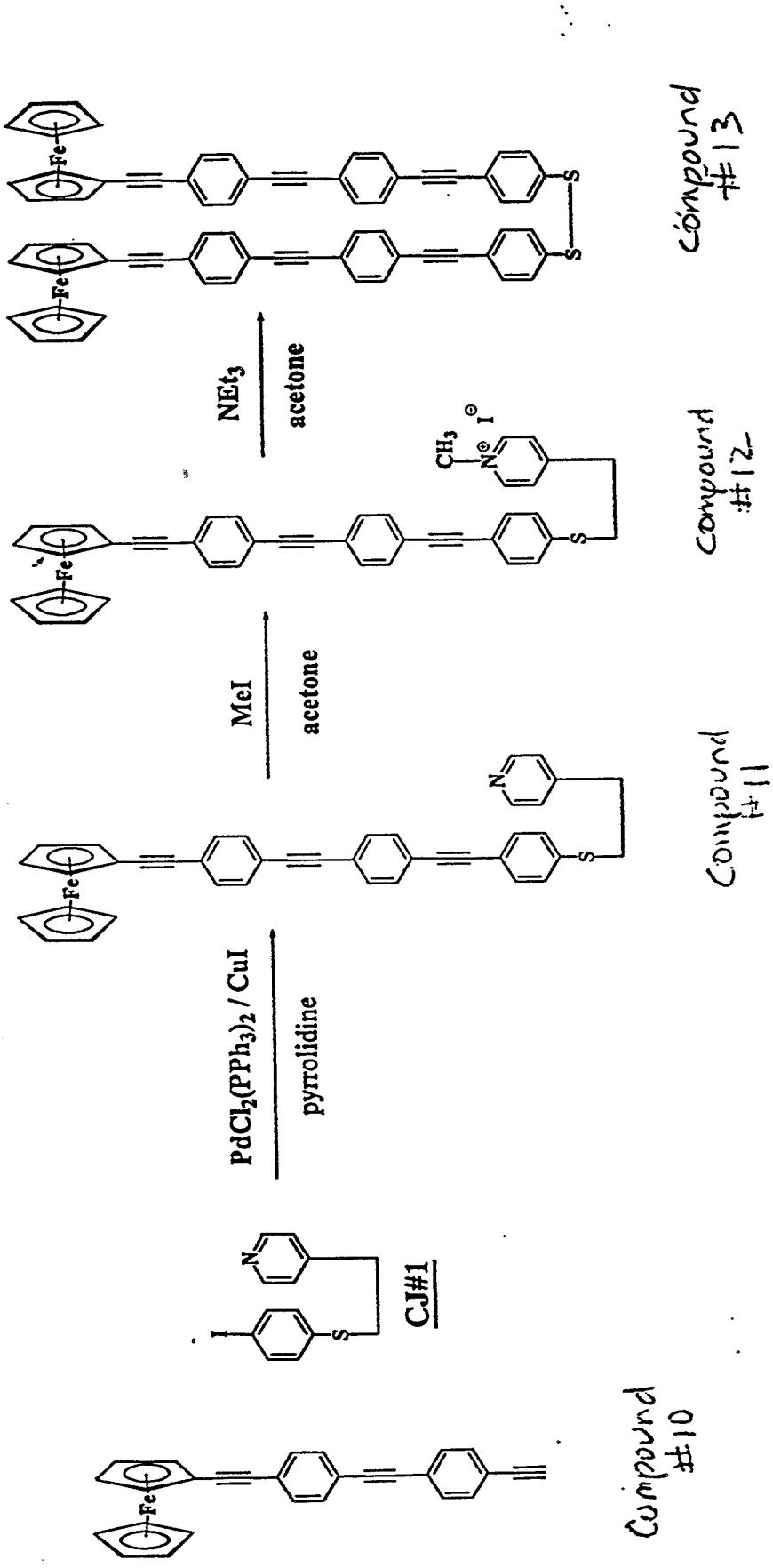


FIGURE 7

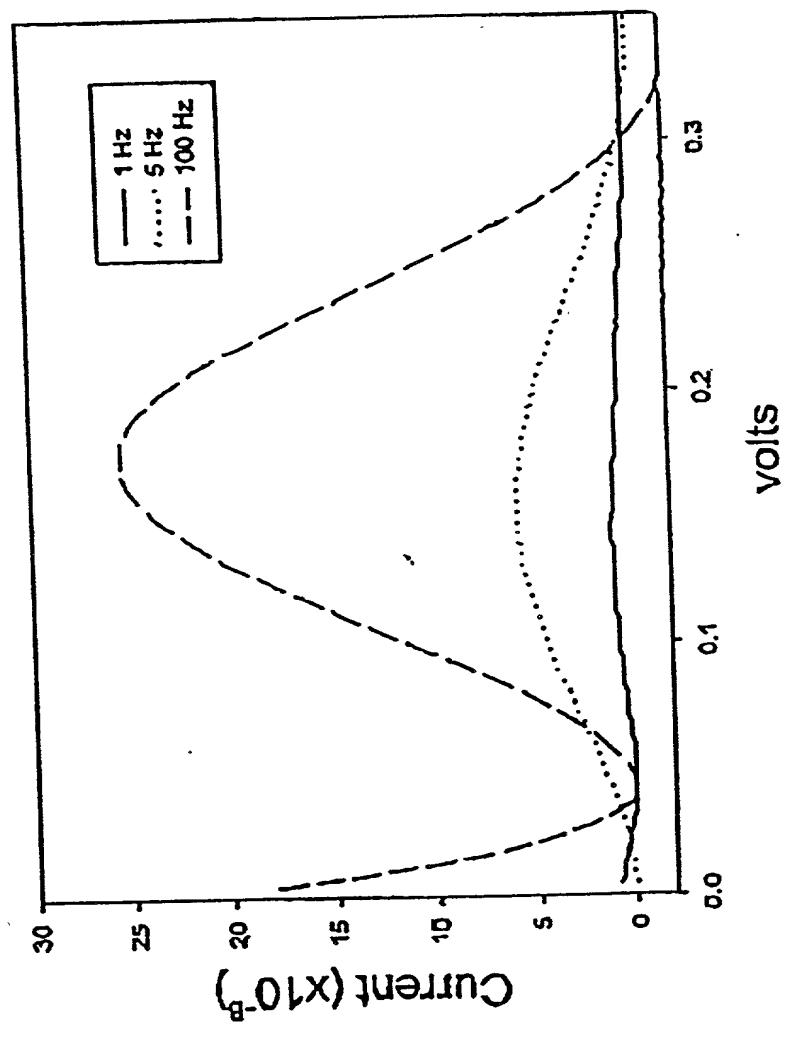
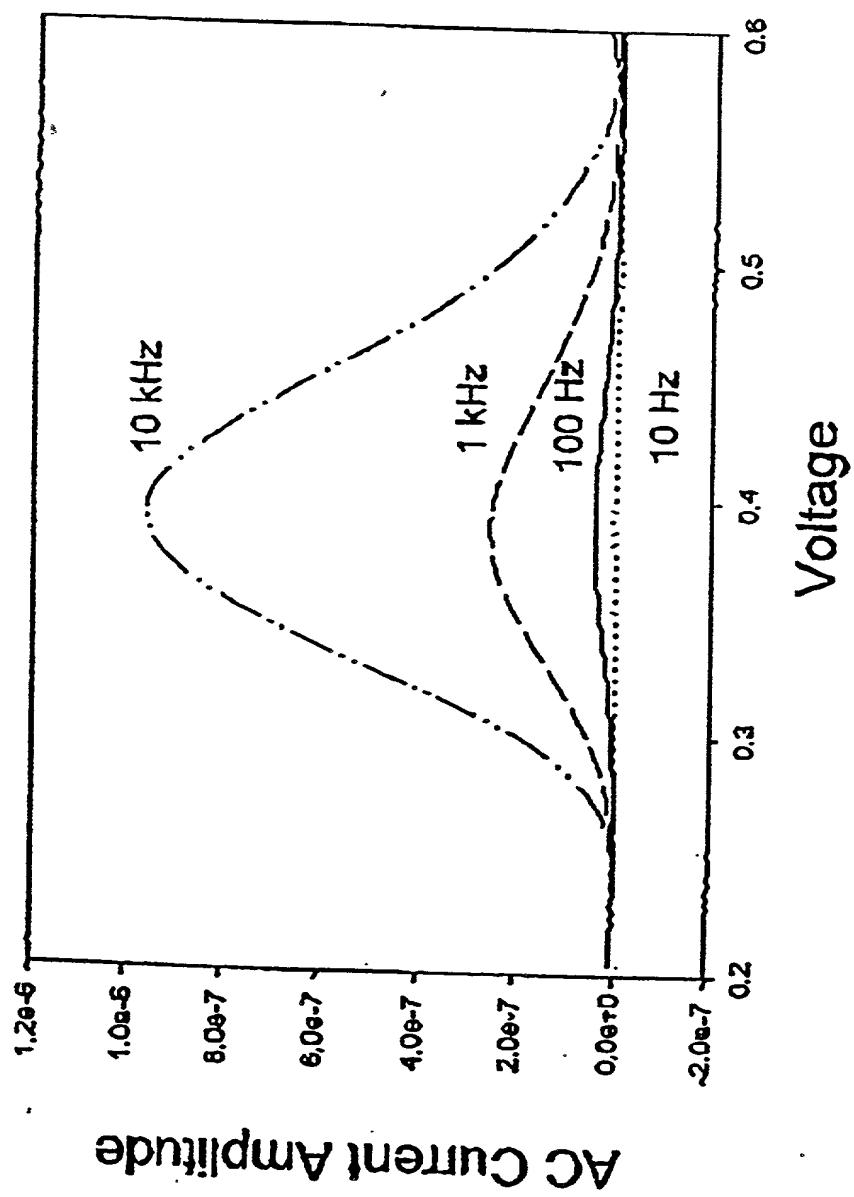


FIGURE 8

FIGURE 9A



Double and Single Stranded DNA

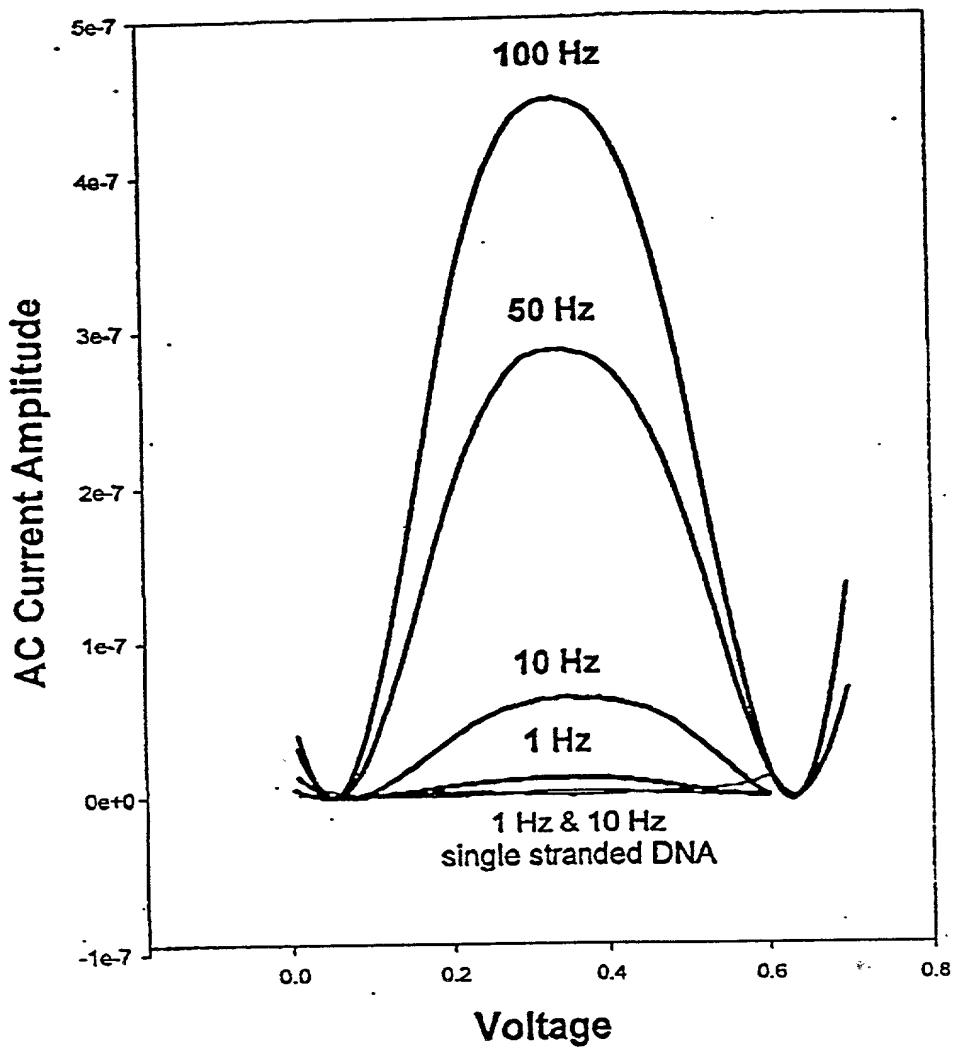


FIGURE 9B

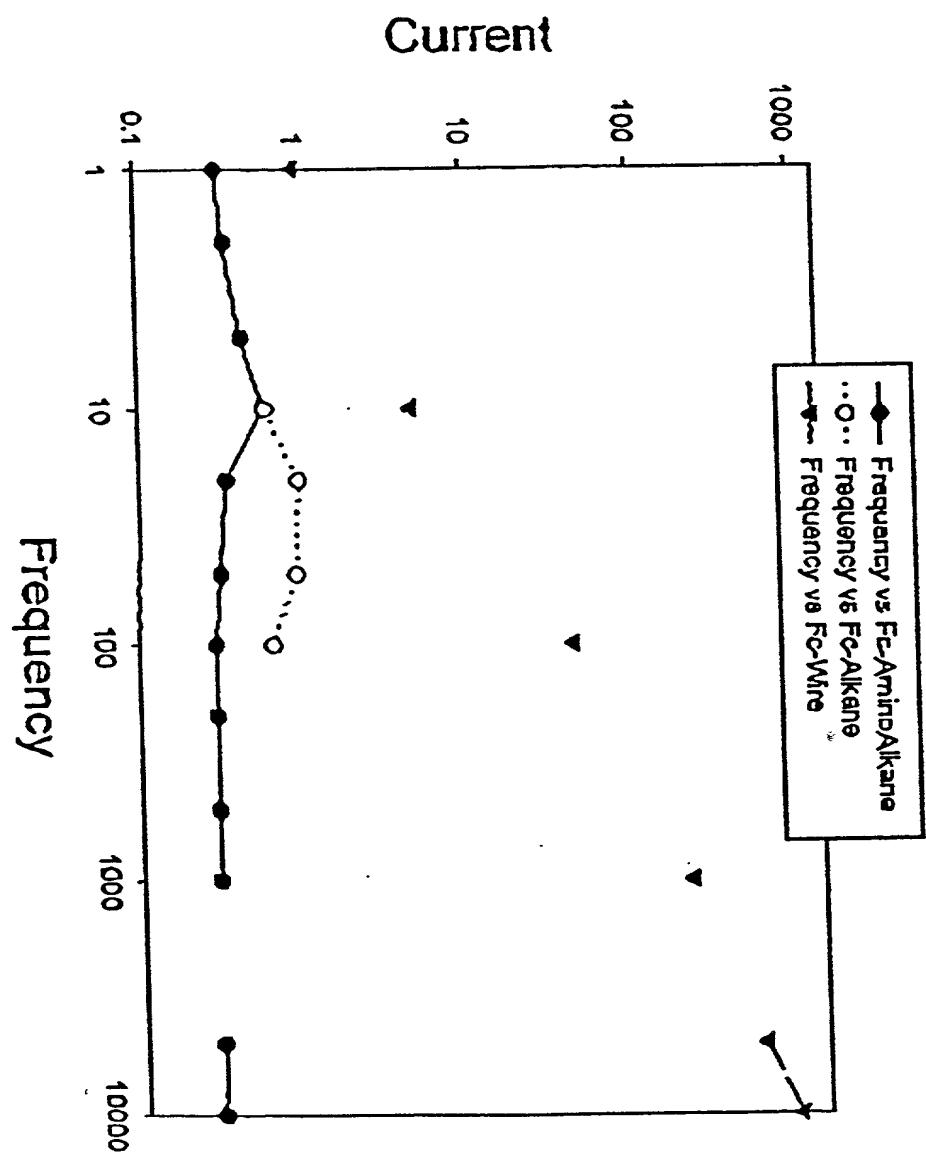


FIGURE 10

DNA and RC circuits

Normalized Current

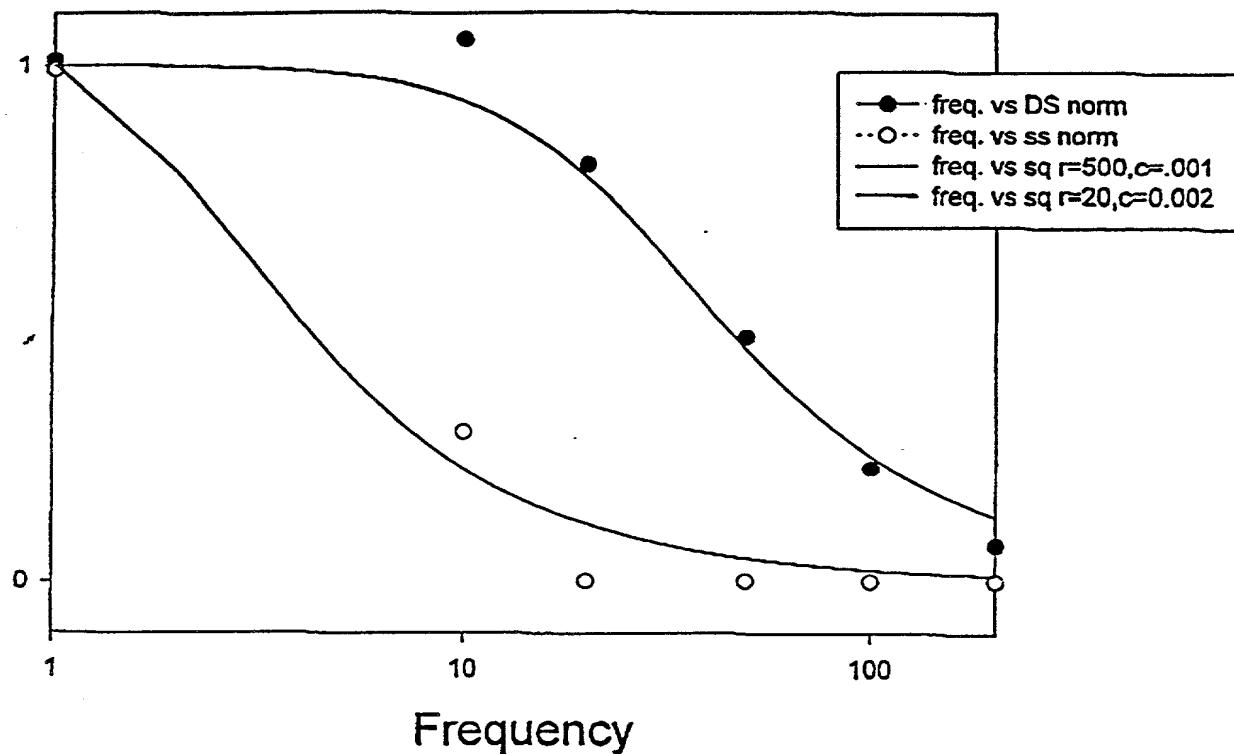
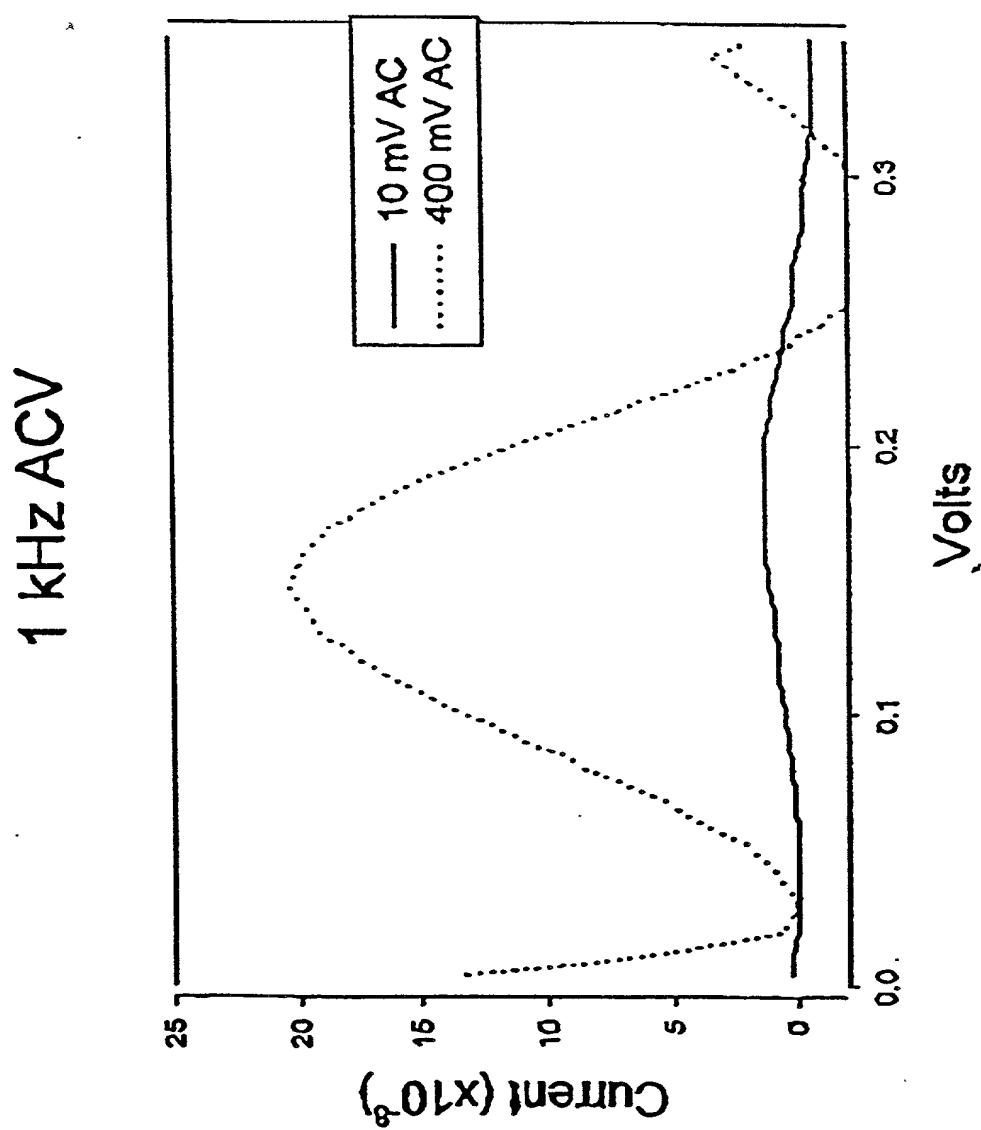


FIGURE 11

FIGURE 12



Fc alkane at 25 mV overpotential

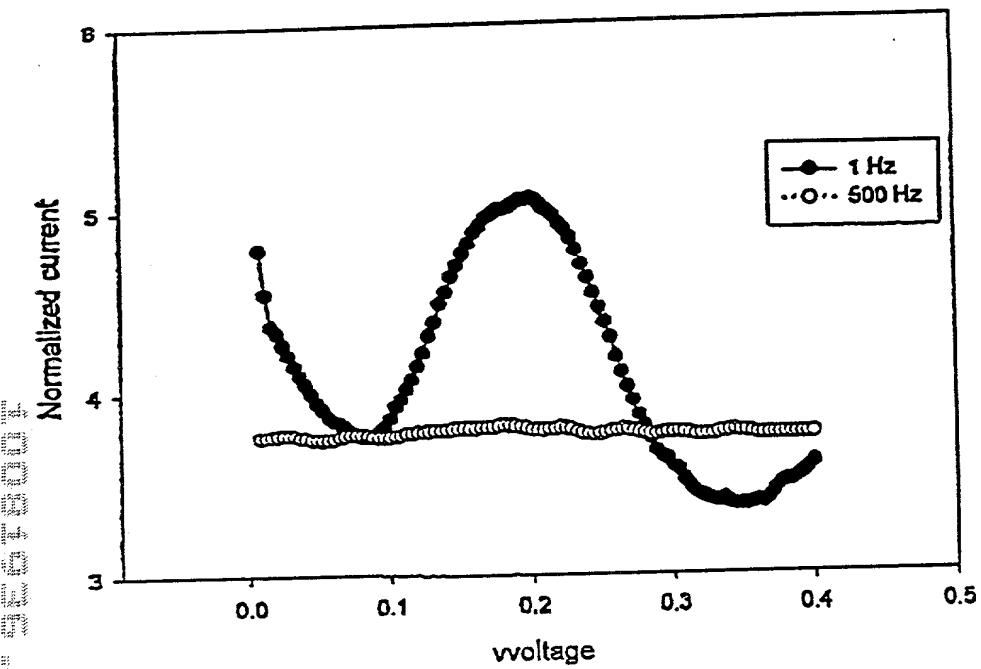


FIGURE 13A

Fc alkane, 1 Hz at 25 mV overpotential
500 Hz at 200 mV overpotential

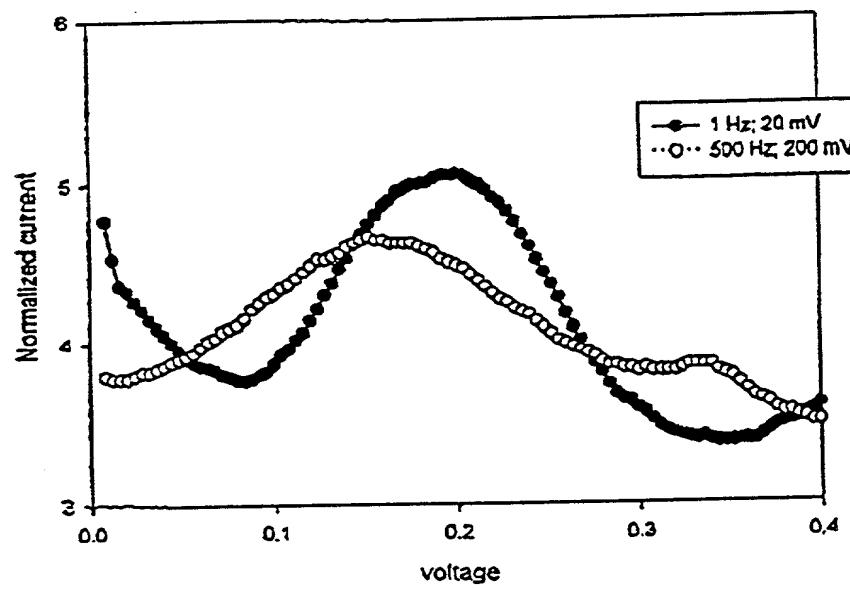


FIGURE 13B

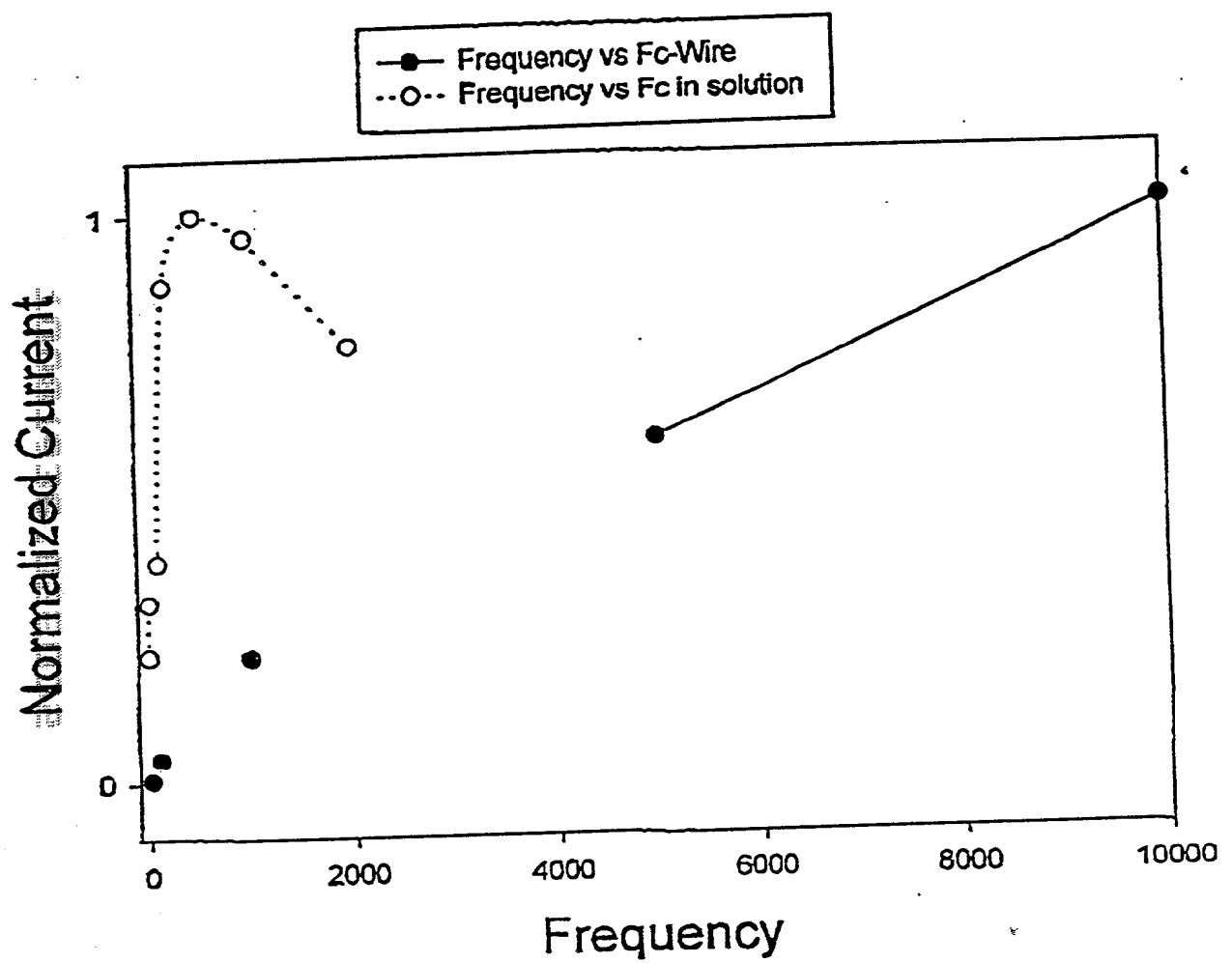


FIGURE 14

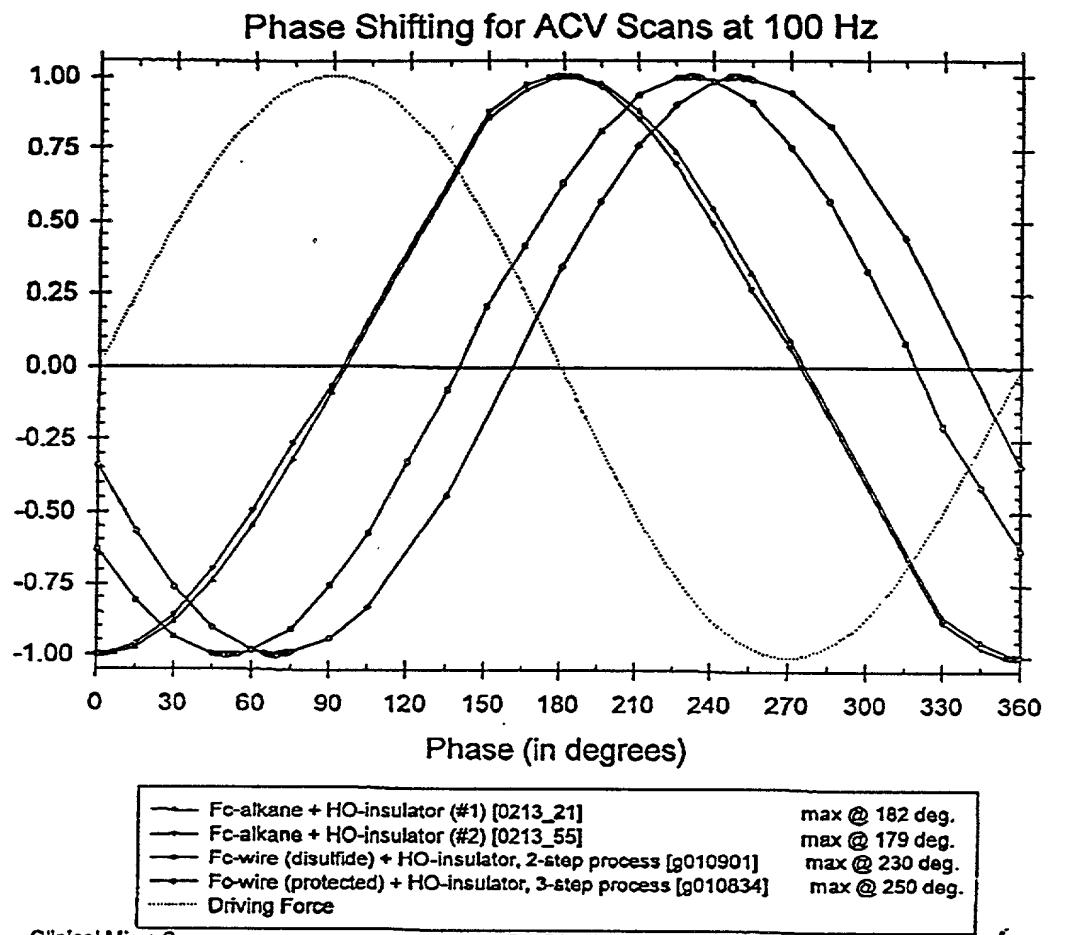


FIGURE 15A

**ACV Phase Diagram at 50Hz
For 121803d (DS) and 021007a2 (SS)**

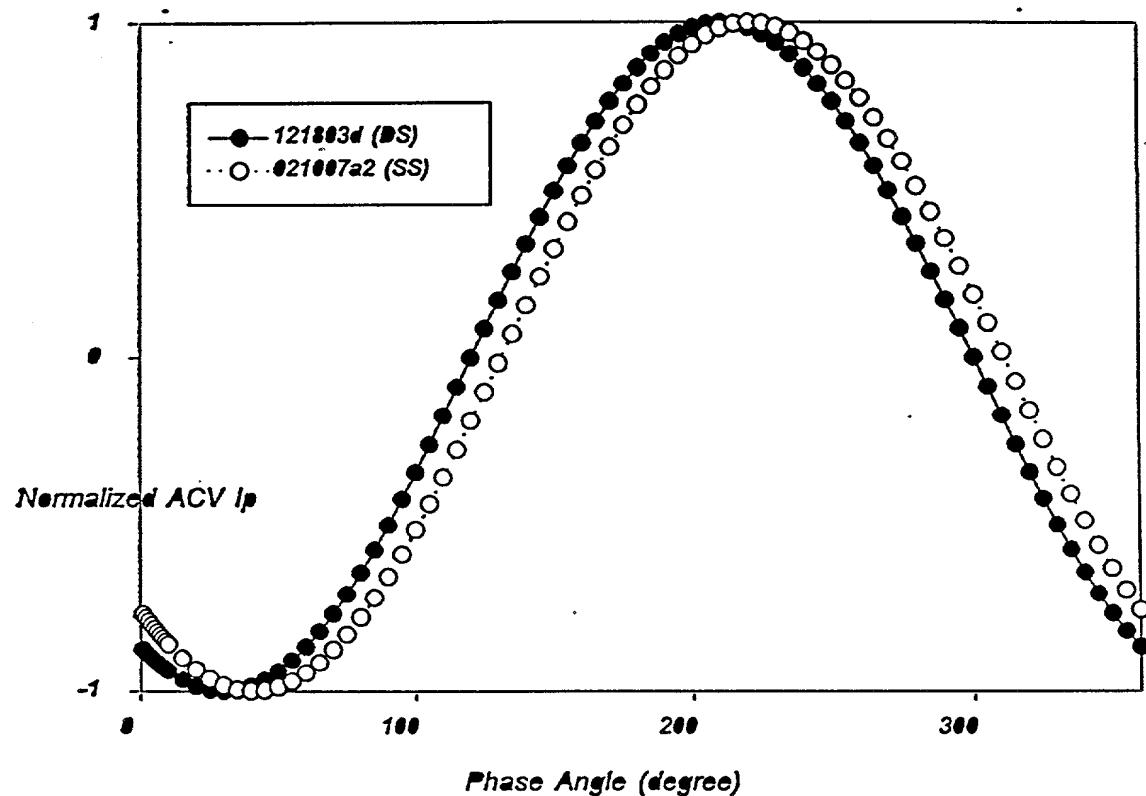


FIGURE 15B

Synthesis Scheme of the Benzylamino-Uridine

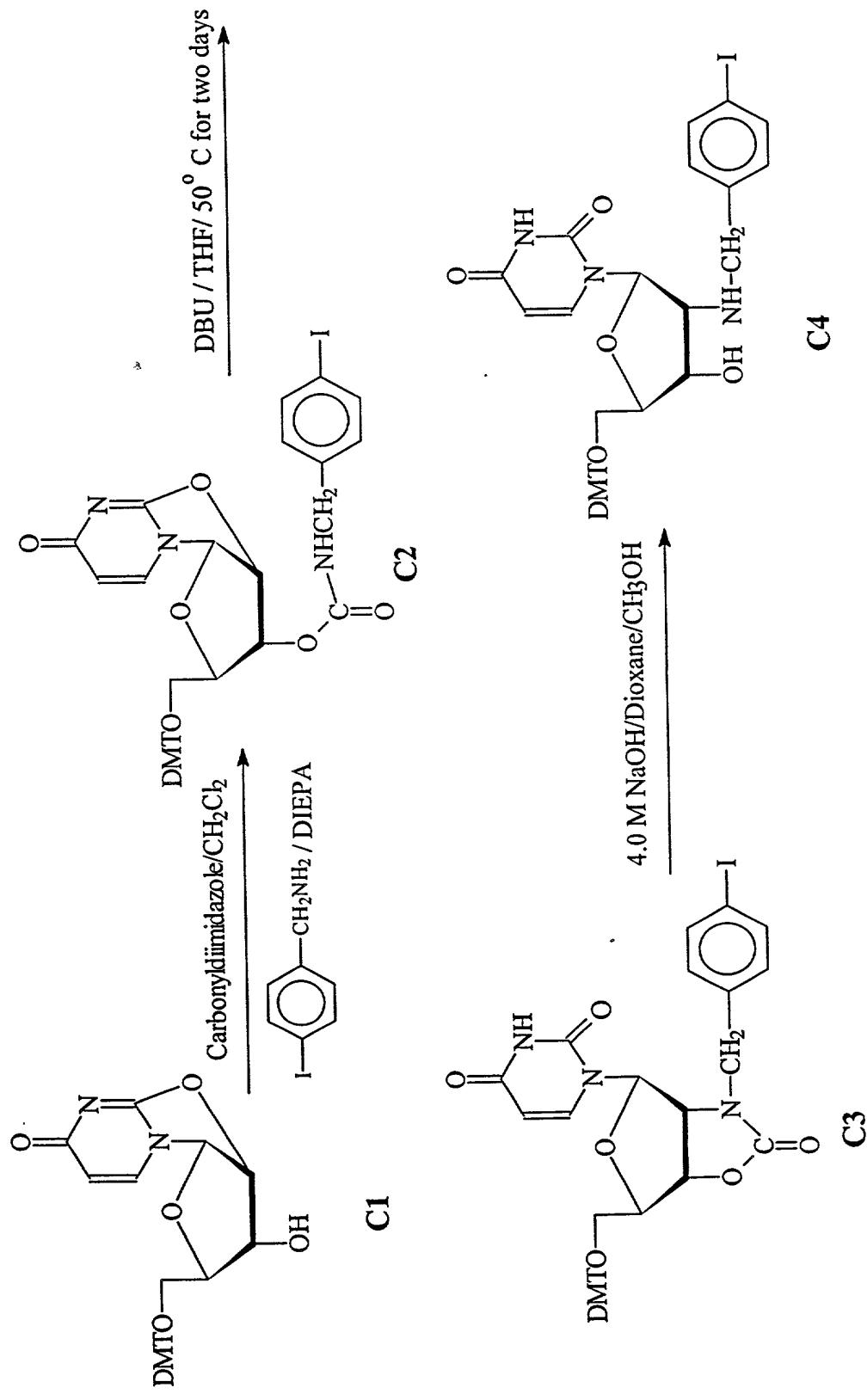


FIGURE 16

Fig
17A

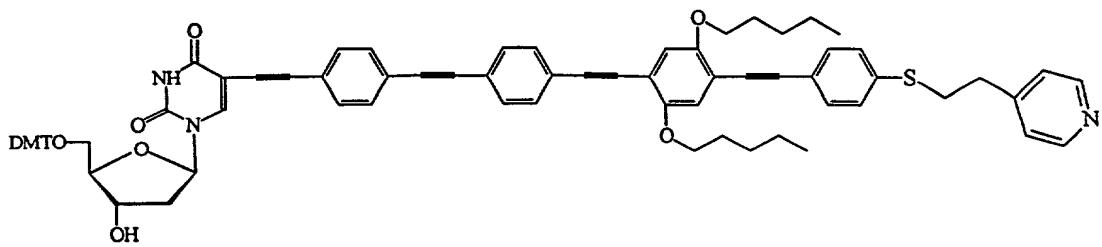


Fig 17B

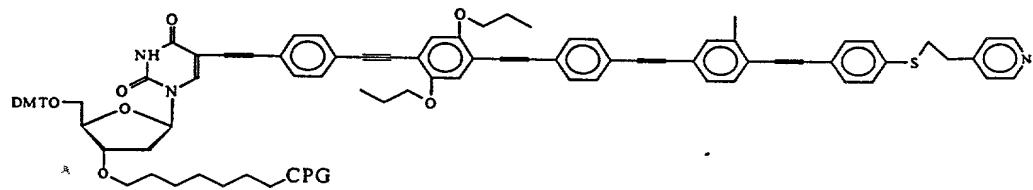


Fig 17C

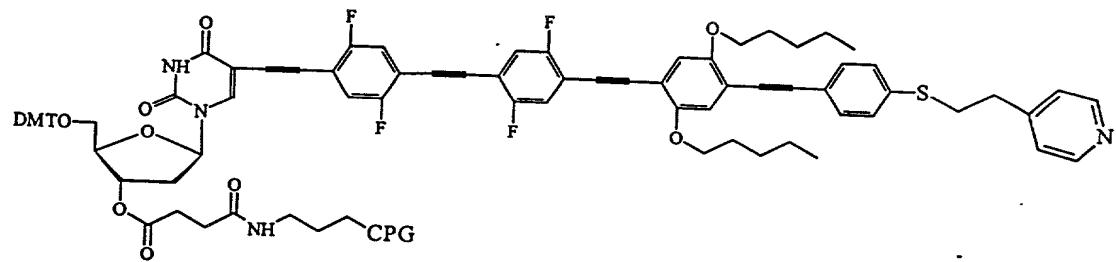
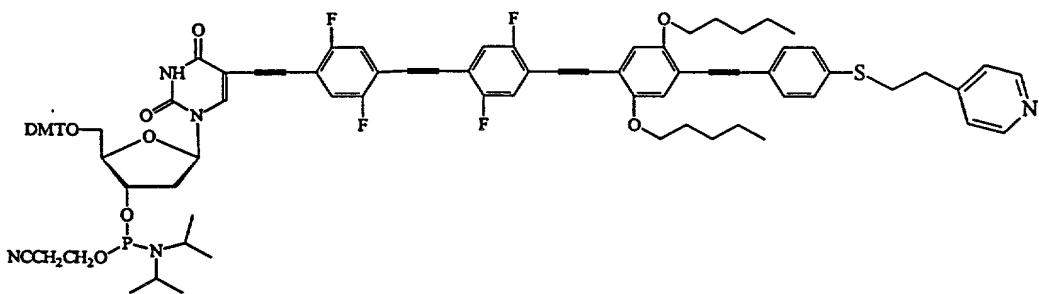


Fig 17D



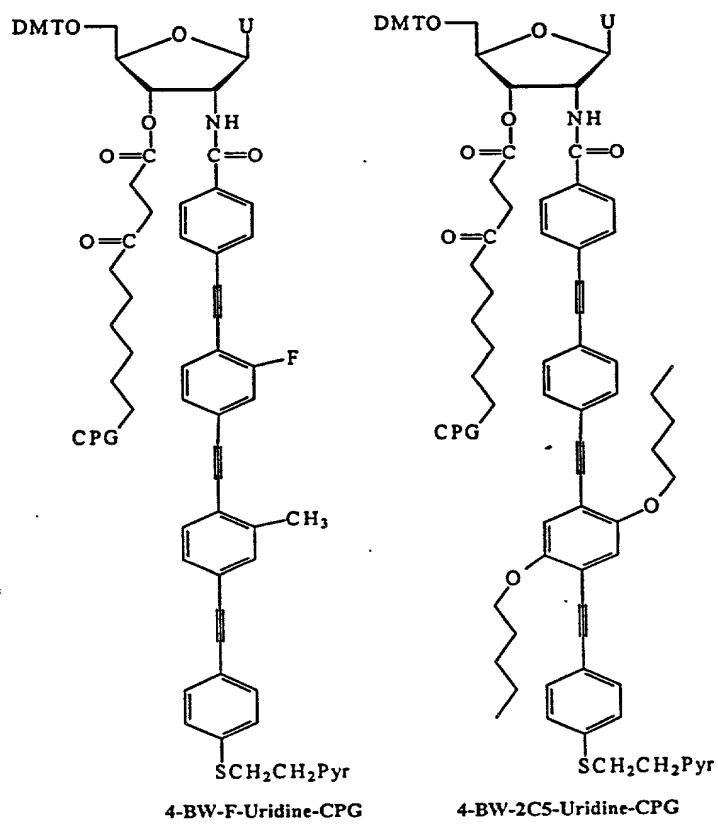


Fig 17E

Fig 17F

Fig 17G

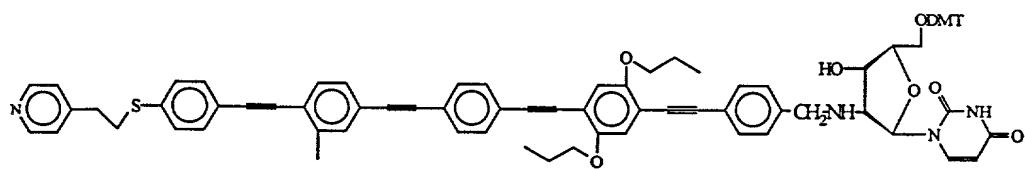
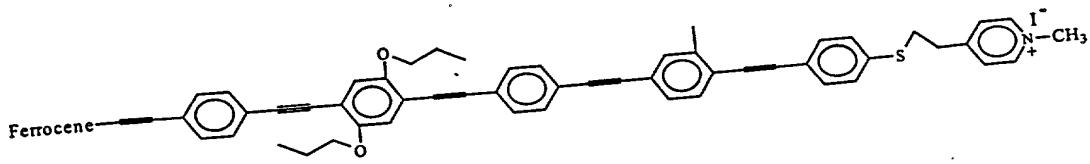


Fig
17H



Synthesis Scheme I of 4-Unit-Wire-uridine, CPG and Phosphorimidite

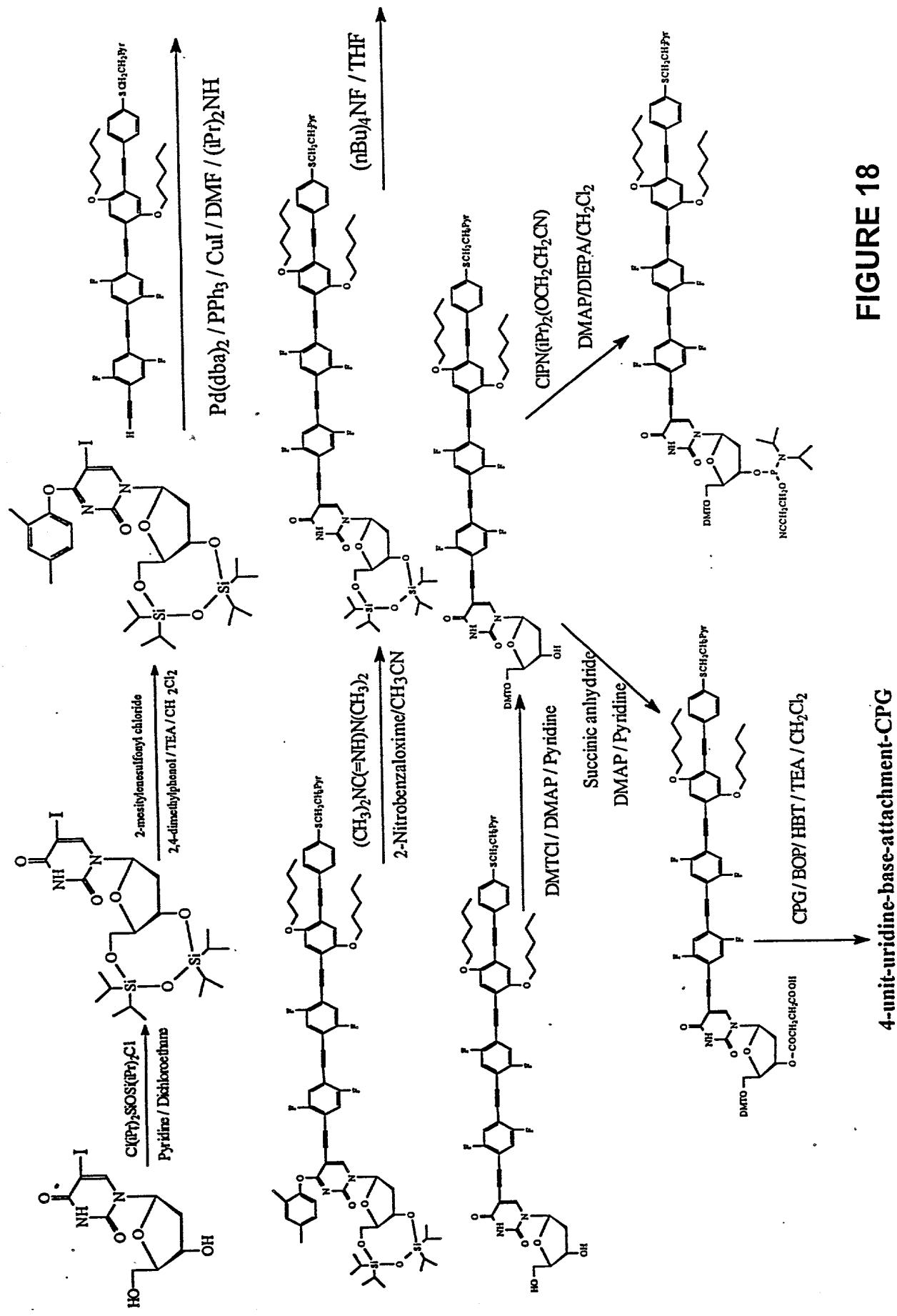


FIGURE 18

Synthesis Scheme II of 4-Unit-Wire-uridine, CPG and Phosphorimidite

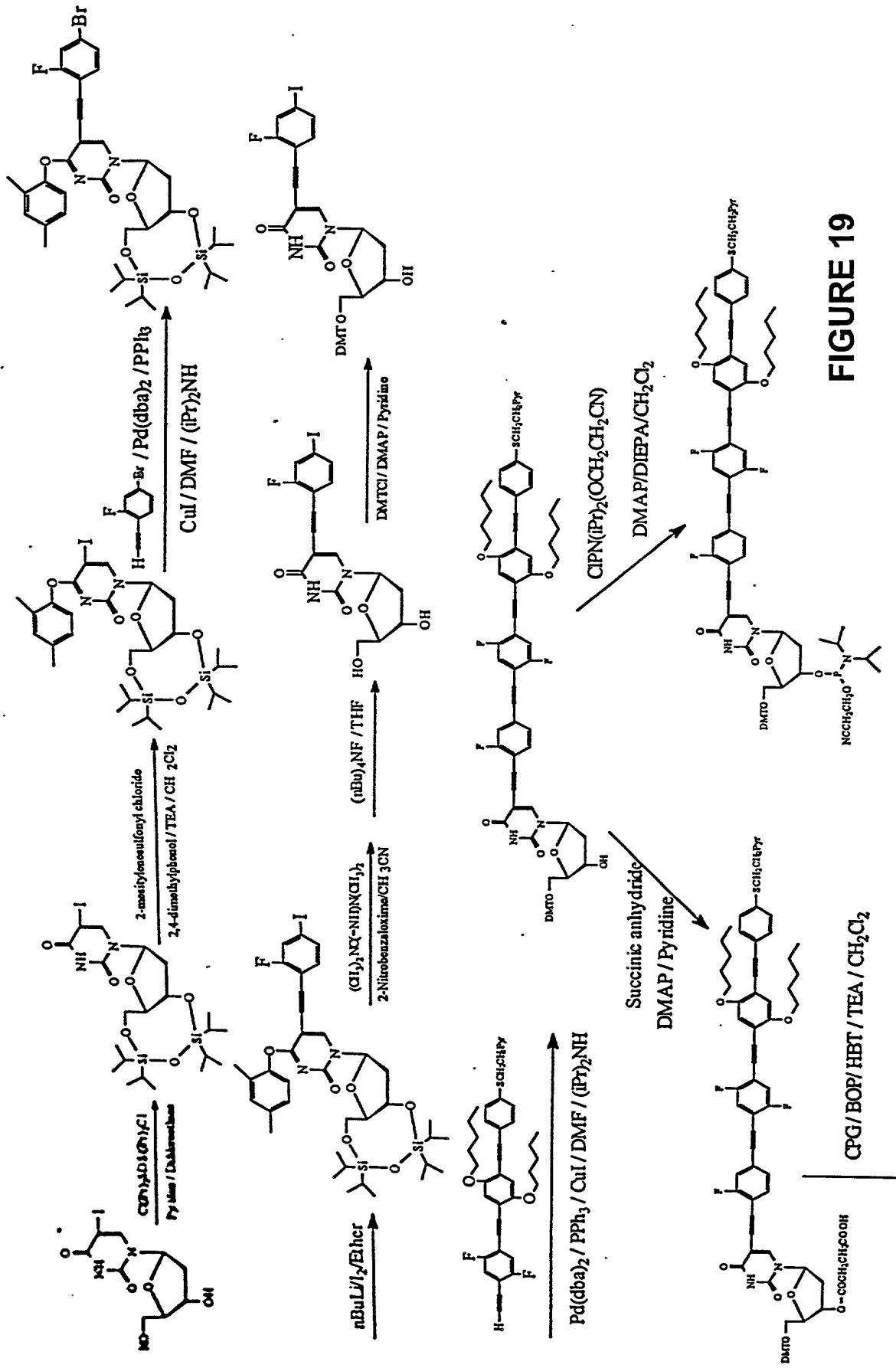


FIGURE 19

4-unit-uridine-base-attachment-CPG

Second Generation of Sulfur Protection in the Basic Attached Wire-DNA Synthesis

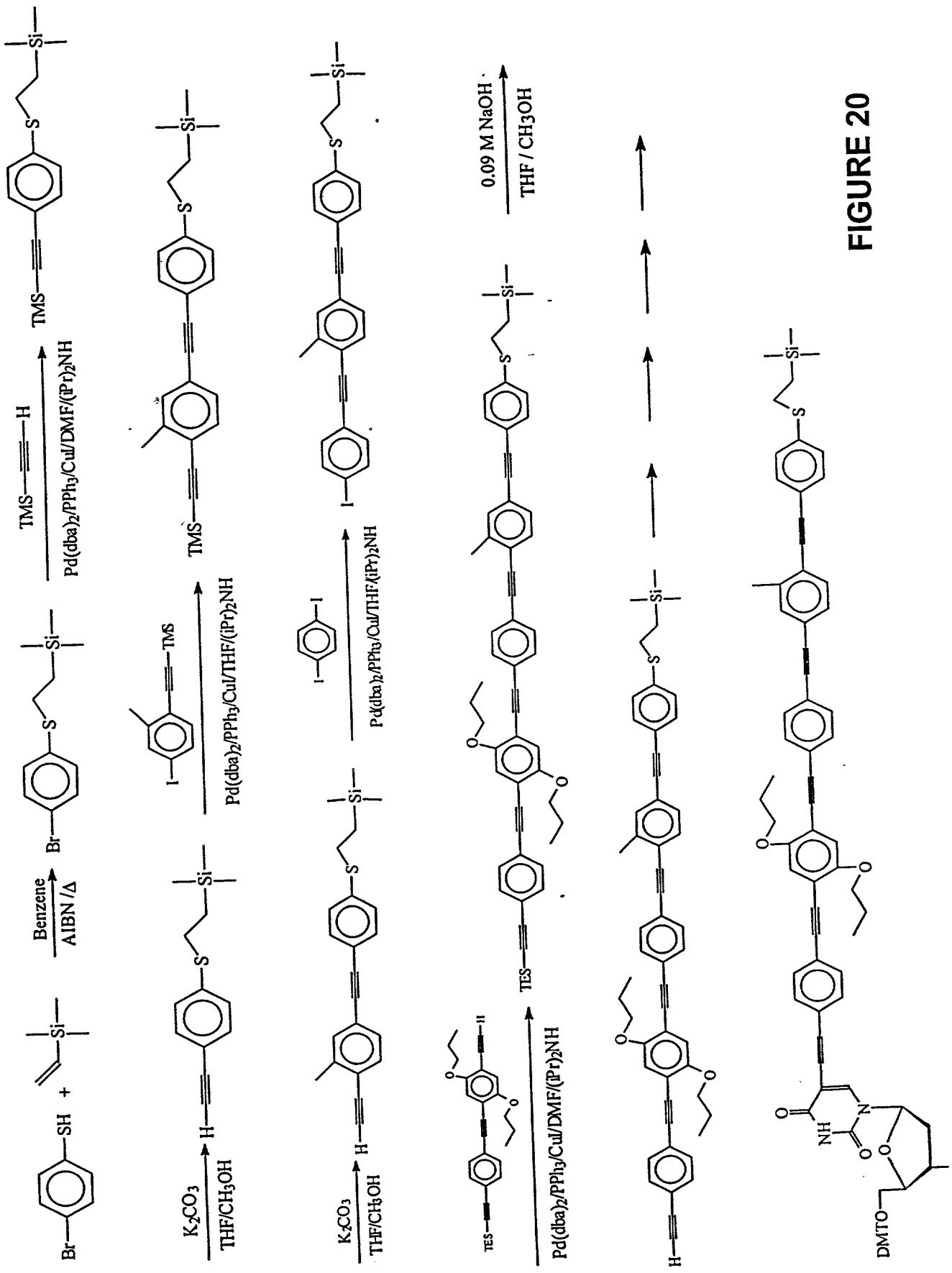


FIGURE 20

Second Generation of Sulfur Protection in the Sugar-Attached Wire-DNA Synthesis

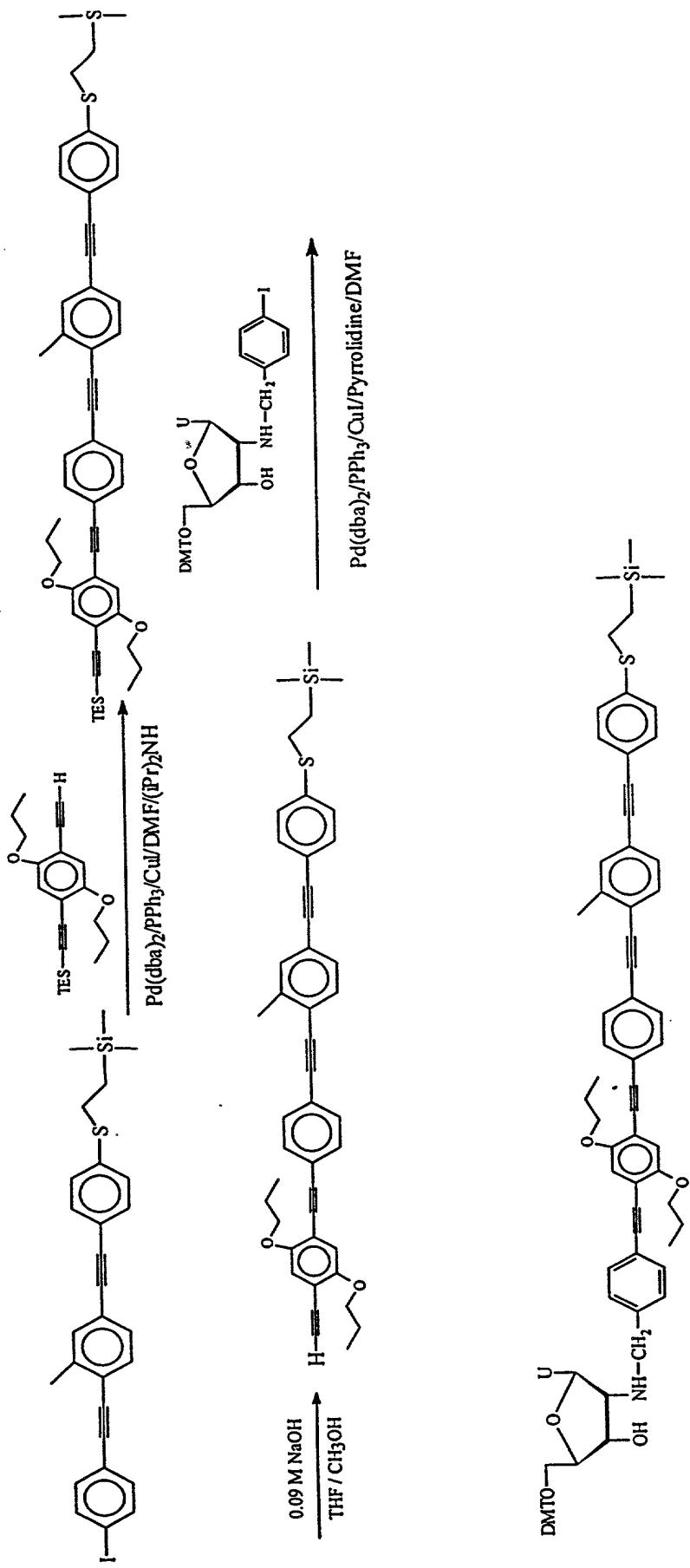


FIGURE 21

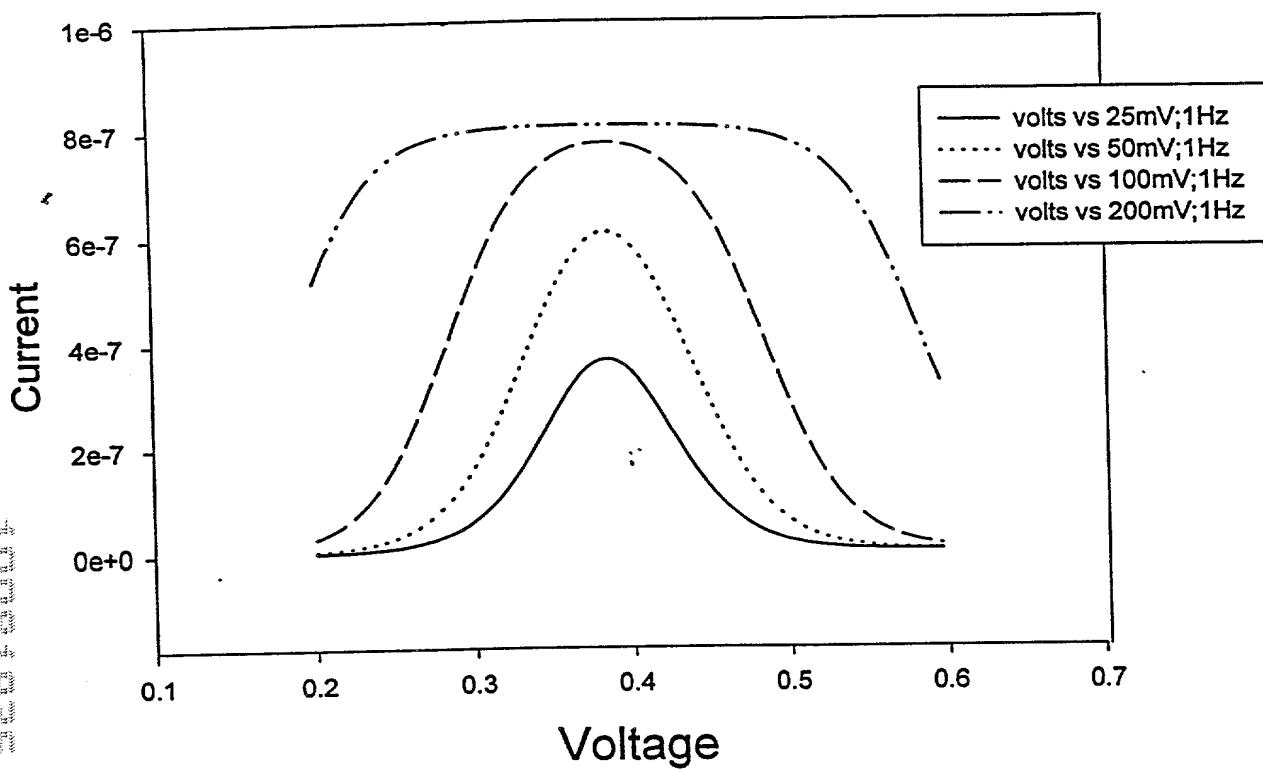


FIGURE 22A

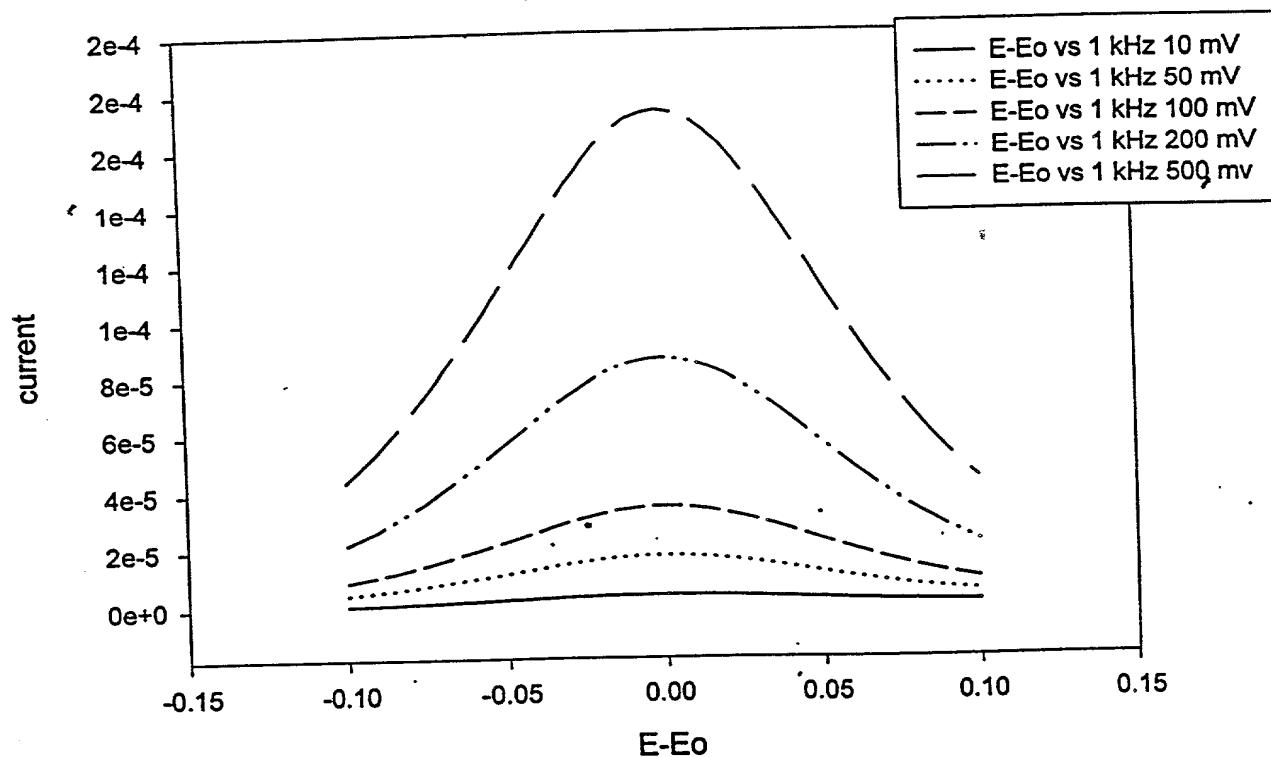


FIGURE 22B

Fc-Wire for 10 Hz

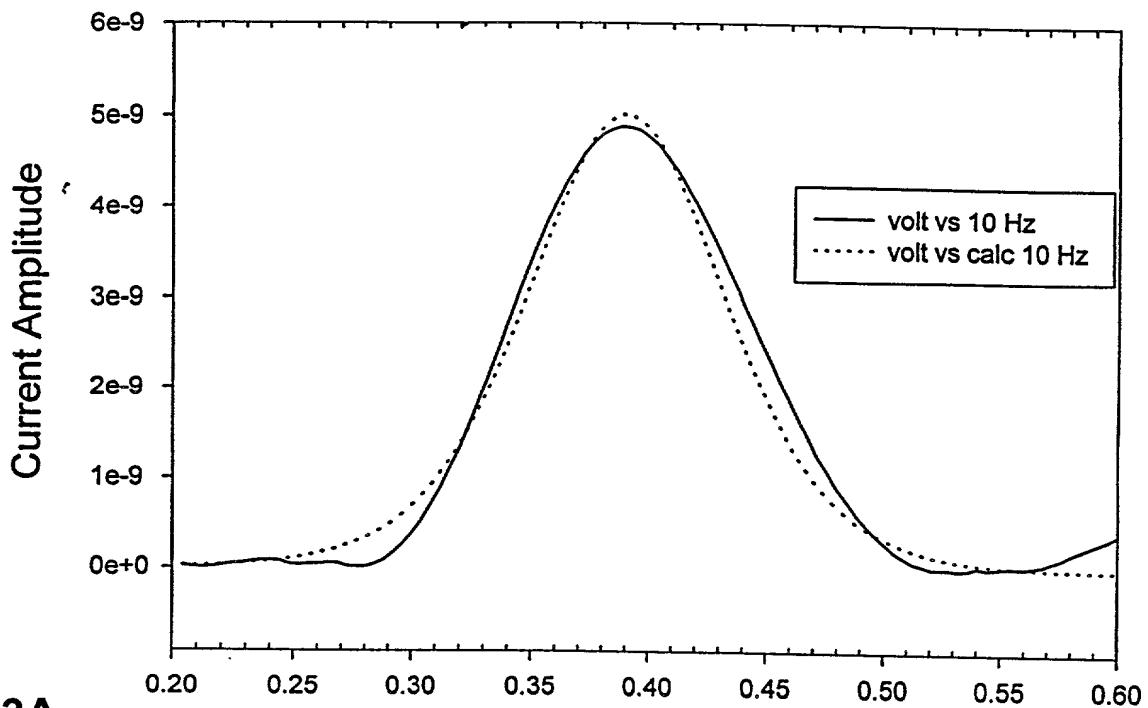


FIGURE 23A

Voltage centered around 0.38 V

Fc-Wire for 100 Hz

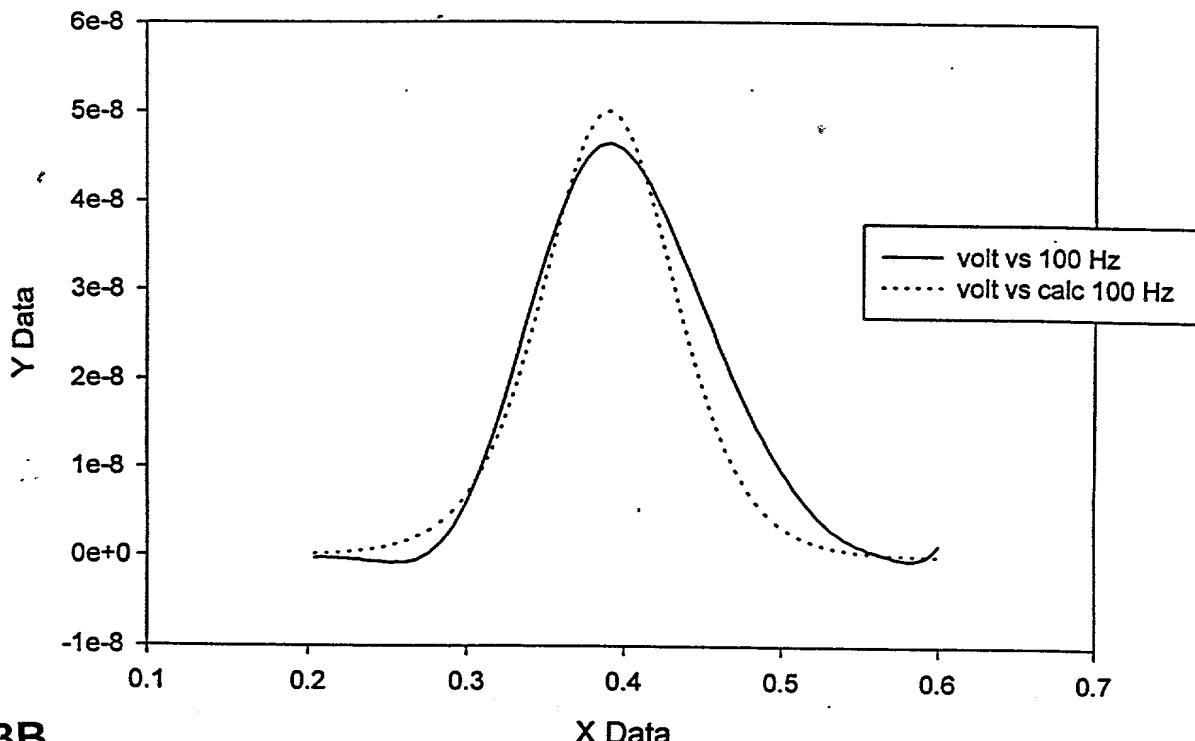


FIGURE 23B